

# An Examination of Health Care Workers in Nonstandard Work Arrangements and Self-Employment

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## KEY FINDINGS

Health care was found to be one of two industries (the other being education) that experienced the fastest growth in nonstandard work arrangements (i.e., work arrangements other than full-time, year-round) between 1995 and 2015.<sup>1</sup> The US Bureau of Labor Statistics (BLS) definition of nonstandard work arrangements (referred to as nontraditional work arrangements by the US Government Accountability Office) includes overlapping concepts of: 1) contingent work (based on self-employment status, length of work, method of payment, and connection to employer), 2) alternative work (i.e., temporary agency worker, on-call worker, contract company worker, and independent contractor), and 3) electronically-mediated work (sometimes referred to as “gig work”).<sup>2,3</sup> Nonstandard work arrangements as well as self-employment alone are not new in health care. Not well-documented is which health care occupations are frequently involved in these work arrangements, and the characteristics of these workers, a gap which this study aims to address.

This study used data from the Contingent Worker Supplement (CWS) to the Current Population Survey (CPS) that was fielded in May 2017 by the US Census Bureau for the BLS. Using BLS definitions, we examined health care workers across three work arrangements: 1) self-employment, 2) contingent work, and 3) alternative work. We did not analyze health care workers involved in electronically-mediated work given BLS concerns about false positives in the survey responses.<sup>4</sup> Our key findings were:

- The self-employed comprised 5.1% of all health care workers, which was less than the national average of 10.0% self-employed workers across all industries. Occupations that included the most self-employed professionals were dentists (60.6%) and chiropractors (51.7%).
- A small proportion of health care workers met any of the three contingent work definitions, and the proportion was lower than the percentage of all workers in contingent work arrangements nationally. Personal and home care aides were consistently among the most common occupations in contingent work arrangements.

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## KEY FINDINGS *continued*

- Regarding those in alternative work arrangements, the percentage of health care workers who worked as independent contractors or employed contract workers were lower than the national average while the percentage of health care workers in temporary or on-call arrangements were higher than the national average. Higher earning occupations such as dentists, physicians, and chiropractors were more often self-employed or working as an independent contractor while lower earning occupations such as personal and home care aides were more often working for temporary agencies.
- A higher percentage of White health care workers were self-employed compared to non-self-employed workers. Asian as well as immigrant (both naturalized and non-US citizen) health care workers were overrepresented in contingent work arrangements. Those working in alternative work arrangements were more likely to be Black, Hispanic, and an immigrant compared to those not in an alternative work arrangement.
- Generally, health care workers in nonstandard work arrangements or the self-employed were less likely to have health insurance compared to health care workers not in these arrangements.

Our findings suggest that while the overall percentages of health care workers across any nonstandard work arrangement or self-employed were relatively small and often less than the national average of workers in these arrangements, there was substantial variation across arrangements as well as occupations. Future research should examine the extent to which these arrangements are desired by health care workers. Among those who desire a standard work arrangement, research should examine how their health, safety, and well-being is affected by their current arrangement and resulting effects on the quality of patient care. Better understanding how, when, and why health care workers are in nonstandard arrangements or self-employed will be critical as we emerge from the COVID-19 pandemic.

# An Examination of Health Care Workers in Nonstandard Work Arrangements and Self-Employment

## INTRODUCTION

Health care was found to be one of two industries (the other being education) that experienced the fastest growth in nonstandard work arrangements (i.e., work arrangements other than full-time, year-round) between 1995 and 2015.<sup>5</sup> Supplemental data detailing individuals involved in nonstandard work were collected in 2017 and recently released as part of the Current Population Survey (CPS), a national household survey collected monthly by the US Bureau of Labor Statistics (BLS). This study examined which health care workers were involved in nonstandard work arrangements. This study also examined self-employment apart from these nonstandard work arrangements to understand the extent to which this group differs, given that self-employment may more often be a choice versus nonstandard work arrangements.

BLS' definition of nonstandard work arrangements (referred to as nontraditional work arrangements by the US Government Accountability Office) includes overlapping concepts of: 1) contingent work (based on self-employment status, length of work, method of payment, and connection to employer), 2) alternative work arrangements (i.e., temporary agency worker, on-call worker, contract company worker, and independent contractor), and 3) electronically-mediated work (sometimes referred to as "gig work").<sup>6,7</sup> Abraham and colleagues define nonstandard work by negation: not paid a wage or salary; no implicit or explicit contract for continuing work relations; and no predictable earnings or work schedule.<sup>8</sup>

Recent attention has focused on gig workers in the online marketplace providing on-demand transportation or food delivery service, for example, and the low wages, benefits, and employee protections that often come with these positions.<sup>9</sup> A concern is that companies are using gig workers as a permanent staffing solution and cost-cutting strategy by avoiding payment of otherwise expensive benefits such as health insurance and retirement.<sup>10</sup> Another concern is that some individuals in gig work, as well as other nonstandard work arrangements, may prefer full-time employment and are not able to obtain that type of employment, an issue that persons of color disproportionately experience.<sup>11</sup> BLS recently discussed the challenges of accurately assessing the gig workforce given the complexity of how people engage with the online marketplace; thus this study will not examine electronically-mediated work.<sup>12</sup>

Nonstandard work arrangements (i.e., contingent and alternative work) and self-employment are not new in health care and may be a preferred option for some health care workers. Registered nurses may work on a short-term basis as a traveling nurse at a hospital, or as a per-diem or on-call nurse for a health care facility. Skilled nursing facilities and home health agencies use contract workers to fill temporary gaps where more traditional workers are unavailable or where patient census fluctuates.<sup>13</sup> The shift toward value-based payments and behavioral health integration has led to emerging and new roles in health care settings as employers seek to address the social determinants of health for their patient populations.<sup>14,15</sup> Many of these new roles may require personnel not abundantly found in health care settings, leading employers to rely on temporary help agencies and contract firms to meet their immediate workforce needs. While some workers may enjoy the flexibility of hours and the opportunity for acquiring new skills, some studies have found that workers in nonstandard work arrangements experience burnout, contributing to lower quality of care for patients.<sup>16,17</sup>

Not well-documented is the extent to which health care workers are involved in various types of work arrangements including nonstandard work arrangements as well as self-employment. This study will provide policymakers and researchers an understanding

of how common these arrangements exist in health care compared to other sectors of the economy, which occupations are commonly found in each arrangement, and the characteristics of those working in each of these work arrangements. The results from this study may begin to inform whether certain categories of workers are at potential financial and other risks given the unstable nature of some of these work arrangements.

## METHODS

### DATA AND SAMPLE

This study used data from the Contingent Worker Supplement (CWS) to the CPS that was fielded in May 2017 by the US Census Bureau for the BLS. Selected variables on sociodemographic (i.e., gender, race, ethnicity, immigrant status, age, health insurance status, and US Census region) and work characteristics (i.e., occupation) were extracted from the IPUMS website.<sup>18</sup> The CWS provides detailed information about nonstandard work arrangements (including contingent and alternative work arrangements) of a respondent’s main job.

The study sample included respondents who worked in an occupation listed under the “health care practitioners and technical occupations” and “healthcare support occupations” groups of the 2010 Standard Occupational Classification (SOC) codes system, as well as selected occupations outside these major groups (see **Appendix A** for full list of occupations).<sup>19</sup> We compared individuals working in a health care occupation to the whole national sample of individuals. The weighted sample included 17,277,486 persons working in a health care occupation and completed the 2017 CPS CWS.

### DEFINITIONS OF WORK ARRANGEMENTS

Using BLS definitions, we explored three major work arrangement categories: 1) self-employment, 2) contingent work, and 3) alternative work (**Table 1**).<sup>20</sup> Self-employed individuals include those who are both incorporated or unincorporated. Contingent work is defined in three ways, going from a narrow to broad definition in what appears to be an additive way where nearly every worker who

**Table 1: Definitions of Work Arrangements**

Work Arrangement		Definition
<b>Self-employed</b>		Those persons who work for profit or fees in their own business, profession, or trade, both incorporated and not incorporated.
<b>Contingent Work</b>	Definition 1 (narrow)	Individual was a contingent worker based on a narrow definition and includes wage and salary workers who expect to work in their current job for one year or less. This definition excludes self-employed workers and independent contractors. Individuals who work for temporary help agencies or contracting companies are considered contingent if they expect their employment arrangement to last for one year or less and they have worked for that company for one year or less.
	Definition 2 (medium)	Individual was a contingent worker based on a definition that is neither narrow nor broad. Includes self-employed and independent contractors who expect to be, and have been, in such employment arrangements for one year or less as well as temporary help and contract company workers if they expect to work for the customers to whom they are assigned for one year or less.
	Definition 3 (broad)	Individual was a contingent worker based on a broad definition. This definition adds wage and salary workers who do not expect their jobs to last, except for those who, for personal reasons, expect to leave jobs that they would otherwise be able to keep. The self-employed and independent contractors who have been in their arrangement for one year or less and who expect the arrangement to last one year or less are also included.
<b>Alternative Work</b>	Temporary help agency worker	Individual paid by a temporary agency, whether or not job is temporary. Includes permanent staff of the agencies and those who are placed with other companies in temporary assignments.
	On-call worker	Individual worker called into work as needed, even though they can be scheduled to work for several days or weeks in a row
	Contract worker employed by firm	Individual worker was a company contract worker and employed by firms who contract out their workers or workers’ services..
	Independent contractor	Individuals identified as independent contractors, consultants, or freelance workers, regardless of whether they are identified as wage or salary workers who obtain their own customers or self-employed in the CPS monthly data.

**Table 2:** Sociodemographic Characteristics of Self-Employed versus Employed Health Care Workers, 2017

	Self-Employed (n=873,579)		Employed (n=16,373,529)	
	Col (%)	SE (%)	Col (%)	SE(%)
<b>Sex</b>				
Female	60.7	3.2	79.6	0.6
<b>Race</b>				
White	80.6	2.8	73.7	0.8
Black	11.5	2.3	16.8	0.7
Asian	6.3	1.7	7.2	0.4
AI/AN	0.0	0.0	0.9	0.2
Two or more races	1.5	0.8	1.5	0.2
<b>Ethnicity</b>				
Hispanic	5.6	1.7	13.0	0.6
<b>Citizenship Status</b>				
US-born	83.2	2.6	84.5	0.6
Naturalized	13.2	2.4	10.6	0.5
Not a Citizen	3.6	1.3	4.9	0.4
<b>Age</b>				
18-24	3.3	1.4	8.6	0.5
25-34	9.6	2.1	26.1	0.7
35-44	22.7	2.8	21.7	0.6
45-54	26.8	2.9	20.8	0.6
55-64	22.0	2.7	17.4	0.6
65-74	14.2	2.2	4.6	0.3
75 and over	1.5	0.7	0.7	0.1
<b>Has Health Insurance</b>				
No	12.4	2.2	6.8	0.4
Yes	83.3	2.5	88.5	0.5
Missing	4.4	1.3	4.8	0.4
<b>Census Region</b>				
Northeast	15.4	2.4	19.5	0.6
Midwest	20.9	2.7	24.0	0.7
South	35.1	3.2	34.5	0.8
West	28.6	2.9	22.0	0.6

Source: Current Population Survey (CPS) Basic Monthly File, May 2017.  
 Notes: Estimates use supplement survey weights. The study population comprises 5,454 respondents in health care occupations. "AI/AN" = American Indian/Alaska Native. Missing = "Refused, Don't know, No Response"

met the narrow definition also met the medium and broad definitions. The three definitions of contingent work consider a combination of factors: self-employment status, length of employment, method of payment, and connection to employer. The BLS category of alternative work includes four sub-categories: temporary agency worker, on-call worker, contract company worker, and independent contractor. Each of these work arrangements may overlap given that workers can fall within multiple definitions. Anyone not in one of these nonstandard work arrangements or self-employed will be referred to hereafter as employed workers.

## ANALYSIS

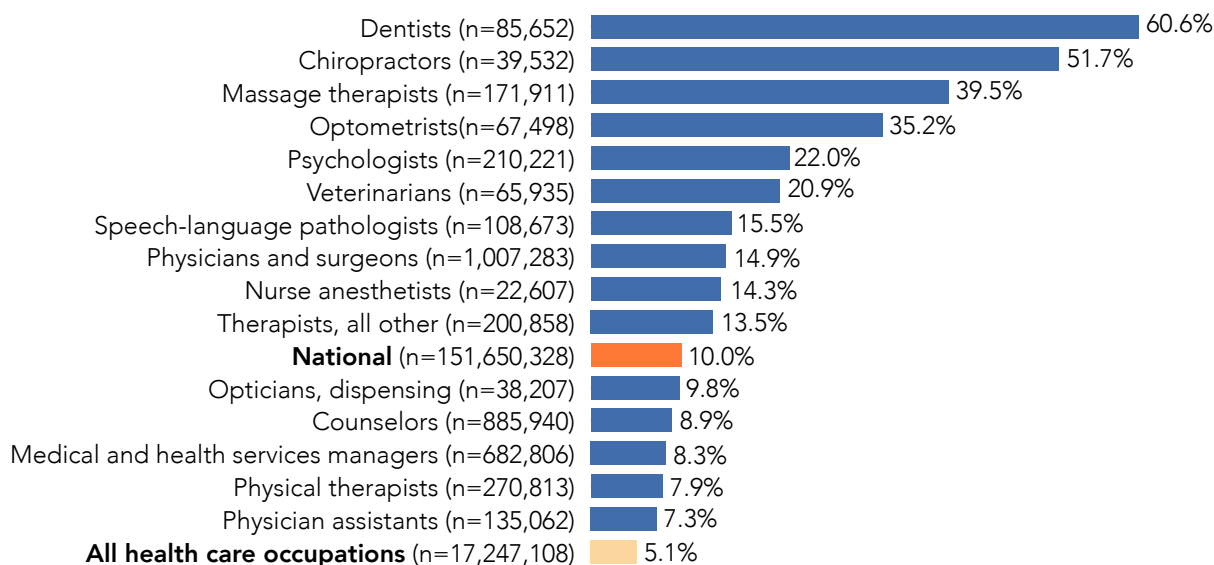
We describe the sociodemographic characteristics of health care workers by three major work arrangements: 1) self-employment, 2) contingent work, and 3) alternative work. We also identified the distribution of individuals by occupations, compared with the national average, who are in each of these work arrangements. All statistical analyses were performed using survey weights in Stata 15.1.<sup>21</sup>

## RESULTS

### SELF-EMPLOYED VERSUS EMPLOYED

The self-employed comprised 5.1% of all health care workers (**Figure 1**). This percent was less than the national average of 10.0% self-employed workers across all industries. Ten health care occupations, however, exceeded the national average for self-employment; (see **Table B1** for full list of health care occupations). The top five health care occupations with the highest percentage of self-employed workers included: dentists (60.6%), chiropractors (51.7%), massage therapists (39.5%), optometrists (35.2%), and psychologists (22.0%). **Table 2** shows the sociodemographic characteristics of self-employed health care

**Figure 1: Percentage of Individuals within Health Care Occupations Classified as Self-Employed, 2017**



Notes: The 15 health care occupations with the highest proportion of self-employed workers are included. We excluded the following SOC codes from the figure: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. Workers in these occupations are included in the all health care occupations estimate.

workers compared to employed health care workers. White individuals comprised a higher proportion of self-employed health care workers (80.6%) compared to employed health care workers (73.7%). Black and Hispanic health care workers comprised a lower proportion of self-employed workers compared to employed health care workers. Self-employed health care workers and employed workers did not vary by citizenship status. In terms of age, self-employed health care workers had higher representation within older age categories compared to employed health care workers. A higher percentage of self-employed workers reported no health insurance compared to employed workers. A higher proportion of self-employed health care workers lived in the West Census region of the US.

## CONTINGENT WORK ARRANGEMENTS

A small percentage of health care workers met any of the three contingent work definitions: 0.6% of health care workers met Definition 1, the narrowest contingent work classification; 1.0% of health care workers met Definition 2; and 2.8% met Definition 3, the broadest classification (Figure 2, 3, and 4). These estimates were slightly lower than the percentage of workers in contingent arrangements nationally—1.3% met Definition 1, 1.6% met Definition 2, and 3.8% met Definition 3.<sup>22</sup>

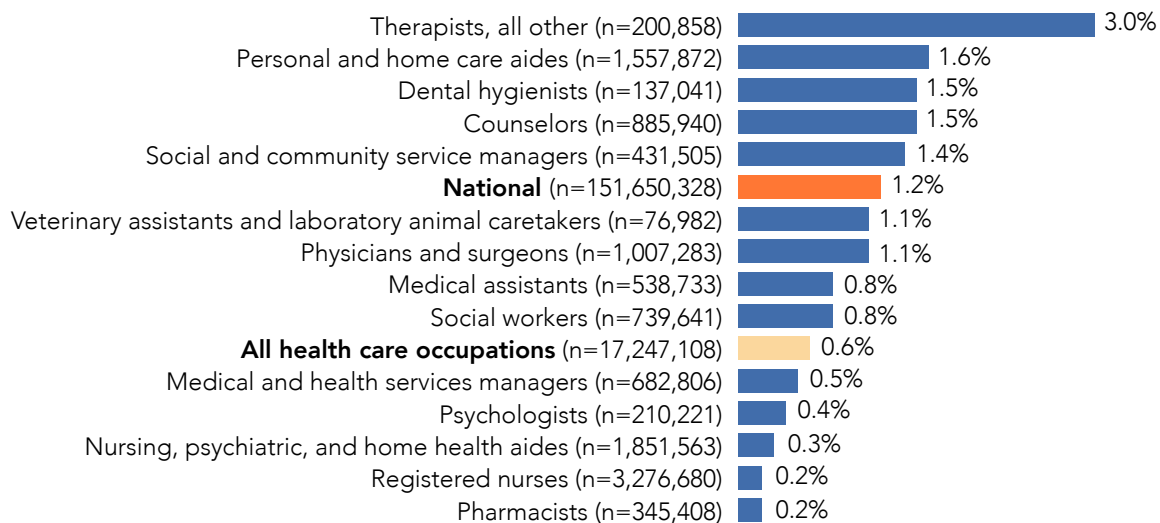
Health care workers in contingent arrangements varied across occupations. For Definition 1 (Figure 2; see Table B2 for full list of health care occupations), the health care occupations with the highest percentage of workers meeting this definition included therapists, all other (3.0%), which represents a mix of therapists not otherwise classified elsewhere (e.g., art and music therapists and hydrotherapists). Other health care occupations with workers meeting Definition 1 were personal and home care aides (1.6%), dental hygienists (1.5%), counselors (1.5%), and social and community service managers (1.4%). About one-fifth of radiation therapists (22.0%) met Definition 2 (Figure 3; see Table B1 for full list of health care occupations). This percentage was

much higher than the next ranked health care occupations: massage therapists (3.3%), therapists, all other (3.0%), pharmacists (2.7%), and personal and home care aides (2.5%). Given the largely additive nature of these contingent work definitions, 22.0% radiation therapists also met Definition 3 (Figure 4; see Table B1 for full list of health care occupations). Other health care occupations with a high percentage of workers meeting Definition 3 included: pharmacy aides (10.2%), physicians and surgeons (7.1%), veterinarians (6.8%), and personal and home care aides (6.5%).

Sociodemographic characteristics did not vary substantially across the different contingent work definitions. Compared to health care workers that met Definition 3, health care workers that met Definition 1 were comprised of a higher percentage of Asians (21.3% vs 11.2%) and non-US citizens (19.9% vs. 8.9%). A higher percentage of health care workers meeting Definition 3 reported having no health insurance (14.2%) compared to those in Definition 1 (9.6%). Nearly 40% of all health care workers meeting Definition 1 lived in the Northeast Census region.

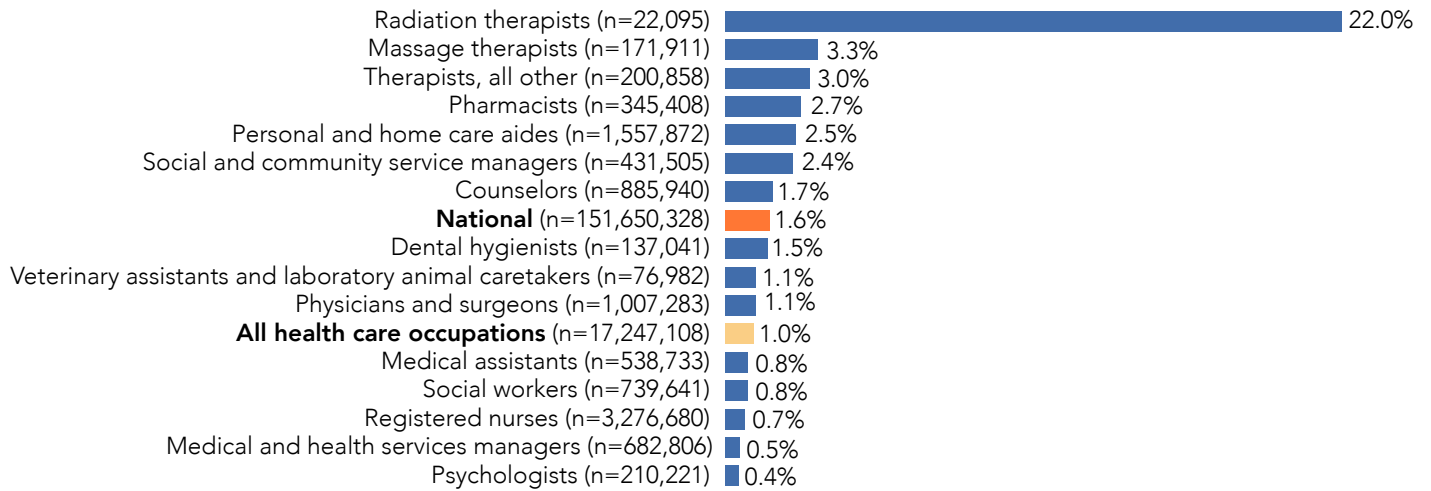
Compared to health care workers who did not meet any contingent work definition (Table 3), health care workers under Definition 3 had a lower representation of female workers. Contingent health care workers tended to be younger, Asian, naturalized citizens, non-US citizens, and living in the Northeast or West Census regions compared to health care workers not in any of these contingent work arrangements.

**Figure 2: Percentage of Individuals within Health Care Occupations Classified Under Contingent Worker Definition 1, 2017**



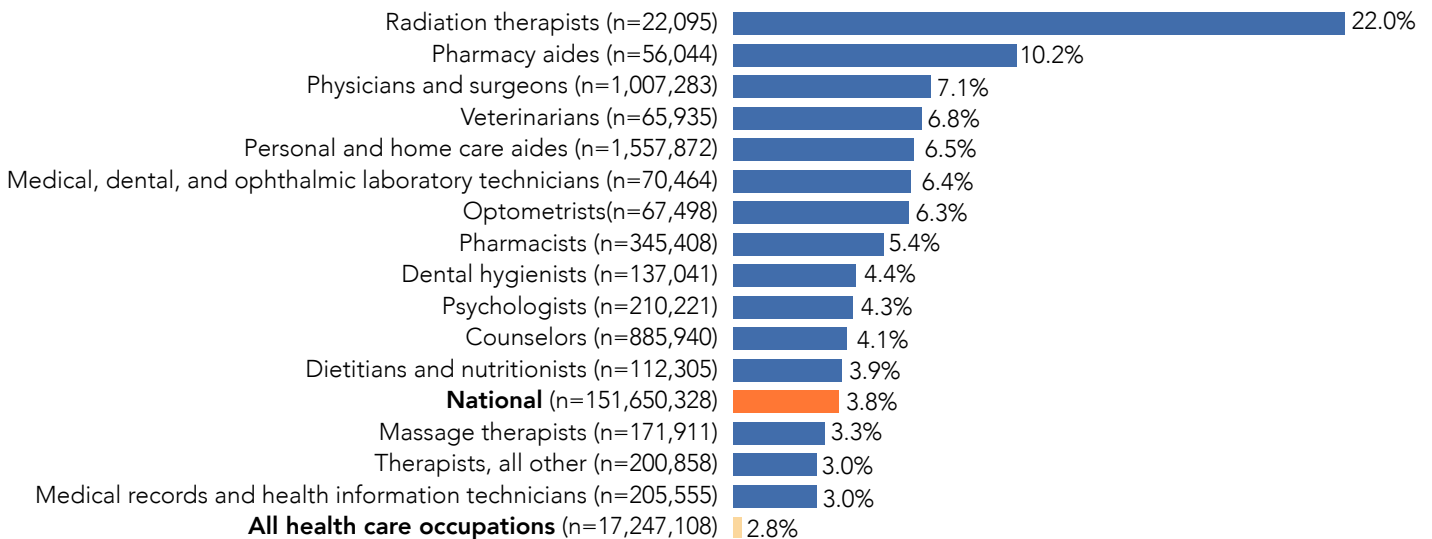
Notes: Health care occupations with >0% of workers meeting Contingent Work Definition 1 are included in figure. We excluded the following SOC codes from the figure: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. Workers in these occupations are included in the all health care occupations estimate.

**Figure 3. Percentage of Individuals within Health Care Occupations Classified Under Contingent Worker Definition 2, 2017**



Notes: The 15 health care occupations with the highest proportion meeting Contingent Work Definition 2 are included in the figure. We excluded the following SOC codes from the figure: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. Workers in these occupations are included in the all health care occupations estimate.

**Figure 4. Percentage of Individuals within Health Care Occupations Classified Under Contingent Worker Definition 3, 2017**



Notes: The 15 health care occupations with the highest proportion of workers meeting Contingent Work Definition 3 are included in the figure. We excluded the following SOC codes from the figure: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. Workers in these occupations are included in the all health care occupations estimate.



**Table 3:** Sociodemographic Characteristics of Workers in Health Care Occupations by Contingent Work Definition, 2017

	Contingent Work Definition 1 (n=105,098)		Contingent Work Definition 2 (n=171,841)		Contingent Work Definition 3 (n=489,566)		Does Not Meet Any Contingent Definition (n=16,757,542)	
	Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)
<b>Sex</b>								
Female	74.3	9.0	73.5	7.1	72.4	4.2	78.9	0.6
<b>Race</b>								
White	63.2	10.0	68.3	7.6	70.4	4.4	74.1	0.7
Black	15.6	8.2	16.2	6.2	16.4	3.7	16.5	0.6
Asian	21.3	8.3	15.6	5.8	11.2	3.0	7.1	0.4
AI/AN	0.0	0.0	0.0	0.0	0.9	0.7	0.8	0.2
Two or more races	0.0	0.0	0.0	0.0	1.2	1.0	1.5	0.2
<b>Ethnicity</b>								
Hispanic	18.6	8.0	14.5	5.8	14.4	3.3	12.5	0.6
<b>Citizenship Status</b>								
US-born	53.8	10.2	66.5	7.7	72.2	4.3	84.8	0.6
Naturalized	26.4	9.3	18.7	6.4	18.9	3.8	10.5	0.5
Not a Citizen	19.9	8.5	14.8	5.9	8.9	2.7	4.7	0.4
<b>Age</b>								
18-24	25.9	9.0	25.6	7.2	13.4	3.3	8.2	0.5
25-34	30.9	9.3	31.0	7.4	31.2	4.4	25.1	0.7
35-44	19.9	7.9	15.9	5.6	14.6	3.2	22.0	0.6
45-54	7.6	5.7	11.0	4.9	18.3	3.6	21.2	0.6
55-64	10.8	6.4	13.7	5.4	14.1	3.1	17.8	0.6
65-74	4.9	4.2	3.0	2.6	8.4	2.4	5.0	0.3
75 and over	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.1
<b>Has Health Insurance</b>								
No	9.6	5.1	12.0	5.1	14.2	3.2	6.8	0.4
Yes	89.5	5.2	86.3	5.2	82.7	3.4	88.4	0.5
Missing	0.9	1.0	1.7	1.3	3.1	1.4	4.8	0.4
<b>Census Region</b>								
Northeast	39.2	10.1	33.1	7.6	25.0	4.2	19.2	0.6
Midwest	14.7	6.9	17.8	5.9	17.5	3.5	24.0	0.7
South	19.9	7.7	27.0	7.2	31.5	4.3	34.6	0.8
West	26.2	8.8	22.1	6.7	26.0	4.0	22.2	0.6

Source: Current Population Survey (CPS) Contingent Worker Supplement, May 2017.

Note: Estimates use supplement survey weights. The study population comprises 5,454 respondents in health care occupations. "AI/AN" = American Indian/Alaska Native. These categories are not mutually exclusive. Those who met either Definition 1 or 2 are also included in Definition 3. However, one worker who met Definition 1 & Definition 3, but not Definition 2. Missing = "Refused, Don't know, No Response"

## ALTERNATIVE WORK ARRANGEMENTS

Similar to contingent work, a small percentage of health care workers were in any alternative work arrangement: 1.0% of health care workers were temporary help agency workers and 2.6% of health care workers were classified as on-call workers (**Figures 5, 6, 7, and 8**). These percentages were slightly higher than the national averages for these arrangements (0.9% and 1.7%, respectively). A higher percentage of health care workers were classified as independent contractors compared to the national average across all sectors (3.5% versus 7.0%, respectively).

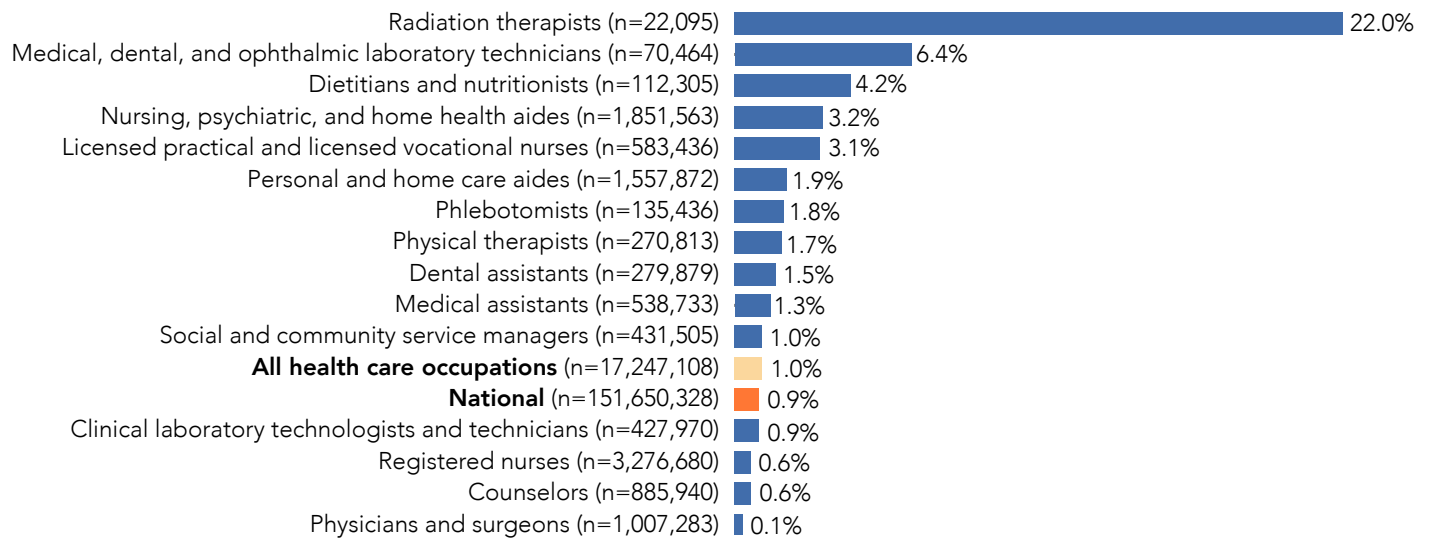
**Temporary help agency workers.** The health care occupations with the highest proportion of temporary help agency workers (**Figure 5**; see **Table B3** for full list of health care occupations) were radiation therapists (22.0%), medical, dental, and ophthalmic laboratory technicians (6.4%), dietitians and nutritionists (4.2%), nursing, psychiatric, and home health aides (3.2%), and licensed practical and licensed vocational nurses (3.1%). Comparing sociodemographic characteristics to health care workers not in any alternative work arrangement (**Table 4**), temporary help agency workers had a higher percentage of Black workers (36.6% vs. 16.6%), Hispanic workers (25.5% vs. 12.7%), naturalized citizens (27.5% vs. 10.6%), and non-US citizens (8.4% vs. 4.8%). Temporary help agency health care appeared to be older and had a higher percentage of workers without health insurance (12.5% vs. 6.6%).

**On-call workers.** The health care occupations with the highest proportion of on-call workers (**Figure 6**; see **Table B3** for full list of health care occupations) were occupational therapist assistants and aides (10.8%), optometrists (8.8%), physical therapist assistants and aides (6.9%), pharmacists (5.2%), and nurse practitioners (4.6%). On-call health care workers did not vary from health care workers not in any alternative work arrangements across key sociodemographic characteristics (**Table 4**). On-call health care workers did not vary substantially across sex, race, ethnicity, immigrant status, or health insurance status. Notable differences were that a higher proportion of on-call health care workers fell into the 65- to 74-year age category (12.4% vs. 4.3%) and lived in the Midwest Census region (29.3% vs. 23.8%).

**Contract worker employed by firm.** The health care occupations with the highest percentage of contract workers (**Figure 7**; see **Table B3** for full list of health care occupations) were medical transcriptionists (13.9%), speech-language pathologists (3.8%), nurse practitioners (2.8%), physician assistants (2.8%), and occupational therapists (2.4%). Compared to health care workers in standard work arrangements (**Table 4**), contract health care workers had a higher percentage of female workers (86.7% vs. 79.0%). They tended to be older and live in the South (43.4%) and West (30.1%) Census regions. There was little variation between contract and standard workers across race, ethnicity, and immigrant status. Most notably, a higher percentage of health care contract workers lacked health insurance (23.1%) compared to health care workers in standard employment (6.6%).

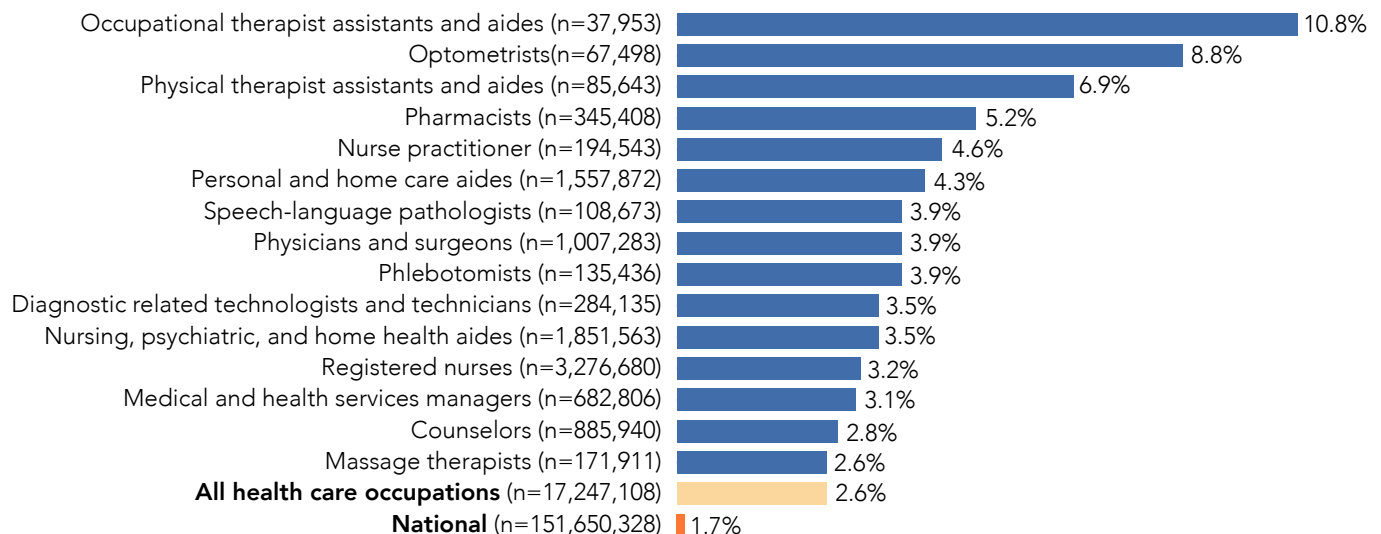
**Independent contractors.** The health care occupations with the highest percentage of independent contract workers (**Figure 8**; see **Table B3** for full list of health care occupations) were chiropractors (52.4%), massage therapists (29.9%), speech-language pathologists (18.2%), dentists (16.9%), and optometrists (15.2%). Compared to health care workers in standard work arrangements (**Table 4**), independent contractor health care workers had a lower percentage of female workers (68.4% vs. 79.0%), higher percentage of White workers (82.4% vs. 74.0%), and higher percentage born in the US (90.3% vs. 84.6%). Compared to health care workers in standard employment arrangements, independent contractors also were much more likely to be age 55 and older (55.2% vs. 22.6%), live in the West Census region (27.4% vs. 22.0%), and lack health insurance (15.0% vs. 6.6%).

**Figure 5. Percentage of Individuals Within Health Care Occupations Classified as Temporary Help Agency Workers, 2017**



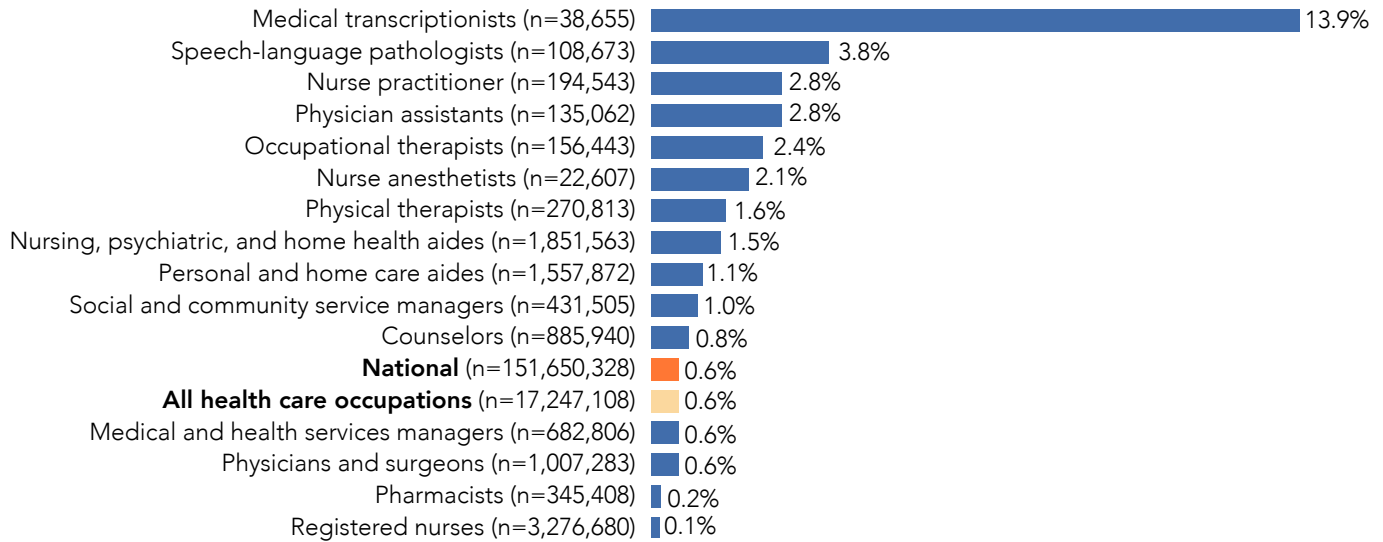
Notes: All health care occupations with >0% of temporary help agency workers are included. We excluded the following SOC codes from the figure: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. These occupations are included in the all health care occupations estimate.

**Figure 6. Percentage of Individuals Within Health Care Occupations Classified as On-Call Workers, 2017**



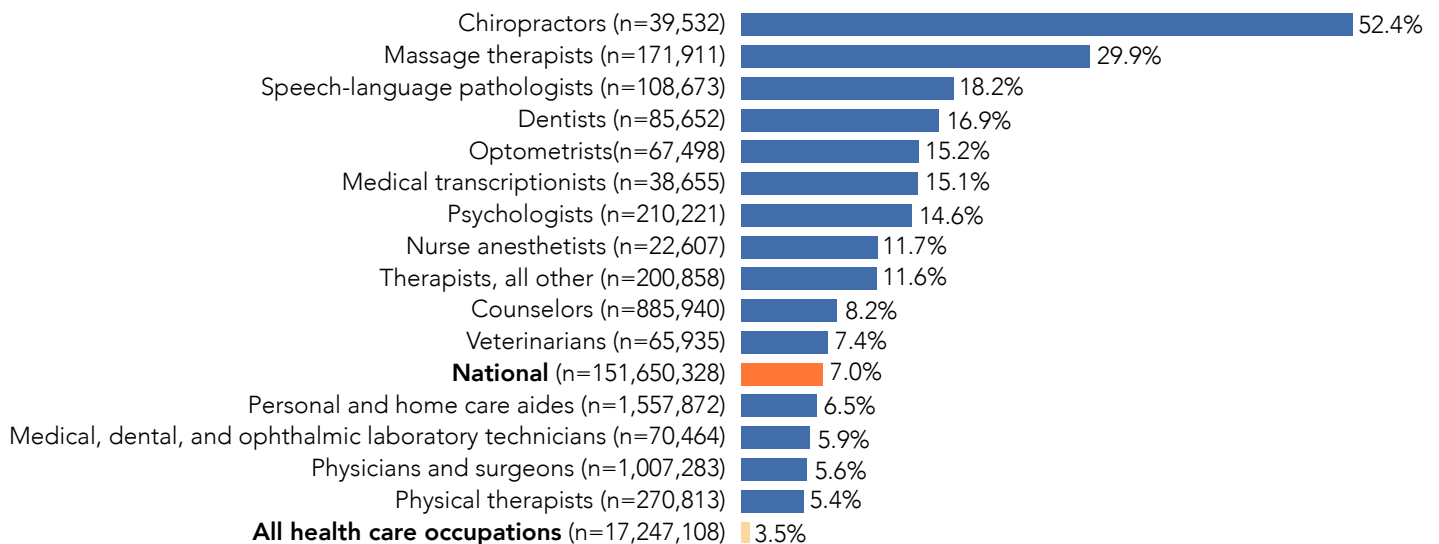
Notes: The 15 health care occupations with the highest proportion of on-call workers are included. We excluded the following SOC codes from the figure: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. These occupations are included in the all health care occupations estimate.

**Figure 7. Percentage of Individuals Within Health Care Occupations Classified as Contract Workers Employed by Firms, 2017**



Notes: All health care occupations with >0% of workers provided by contract firms are included. We excluded the following SOC codes from the figure: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. These occupations are included in the all health care occupations estimate.

**Figure 8. Percentage of Individuals Within Health Care Occupations Classified as Independent Contractors, 2017**



Notes: The 15 health care occupations with the highest proportion of independent contract workers are included. We excluded the following SOC codes from the figure: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. These occupations are included in the all health care occupations estimate.

**Table 4:** Sociodemographic Characteristics of Workers in Health Care Occupations by Alternative Work Arrangements, 2017

	Temporary Help Agency Workers (n=174,070)		On-Call Workers (n=451,480)		Contract Workers Employed by Firms (n=101,718)		Independent Contractors (n=604,473)		Not In Any Alternative Work Arrangement (n=15,925,913)		
	Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)	
<b>Sex</b>											
Female	77.0	6.8	81.9	3.5	86.7	6.7	68.4	3.7	79.0	0.7	
<b>Race</b>											
White	51.0	8.1	71.8	4.4	69.5	9.8	82.4	3.3	74.0	0.8	
Black	36.6	8.0	12.5	3.2	15.8	7.7	13.4	3.1	16.6	0.7	
Asian	6.7	3.7	14.0	3.5	7.5	5.1	2.8	1.3	7.2	0.4	
AI/AN	0.0	0.0	0.8	0.6	0.0	0.0	0.0	0.0	0.9	0.2	
Two or more races	5.6	3.9	0.9	0.8	7.2	6.9	1.4	0.9	1.4	0.2	
<b>Ethnicity</b>											
Hispanic	25.5	7.1	7.9	2.8	15.7	7.3	7.4	2.4	12.7	0.6	
<b>Citizenship Status</b>											
US-born	64.1	7.9	80.3	3.9	87.6	6.7	90.3	2.6	84.6	0.6	
Naturalized	27.5	7.4	13.2	3.3	12.4	6.7	7.8	2.4	10.6	0.5	
Not a Citizen	8.4	4.6	6.6	2.5	0.0	0.0	2.0	1.1	4.8	0.4	
<b>Age</b>											
18-24	2.4	2.3	8.0	2.7	6.5	5.2	4.1	1.9	8.6	0.5	
25-34	15.4	6.1	23.3	4.0	15.4	8.4	12.0	2.9	26.0	0.7	
35-44	22.0	6.7	23.3	4.0	14.8	6.7	22.7	3.3	21.7	0.7	
45-54	25.9	7.4	19.2	3.6	27.7	8.7	21.3	3.2	21.0	0.7	
55-64	12.4	4.8	13.1	2.9	21.8	8.0	22.6	3.4	17.6	0.6	
65-74	21.9	6.4	12.4	2.8	13.8	6.1	15.3	2.7	4.3	0.3	
75 and over	0.0	0.0	0.8	0.8	0.0	0.0	2.0	0.9	0.7	0.1	
<b>Has Health Insurance</b>											
No	12.5	5.3	7.1	2.4	23.1	9.4	15.0	2.9	6.6	0.4	
Yes	85.0	5.8	89.4	2.9	76.9	9.4	80.6	3.2	88.5	0.5	
Missing	2.5	2.5	3.5	1.8	0.0	0.0	4.5	1.7	4.9	0.4	
<b>Census Region</b>											
Northeast	30.0	7.6	16.1	3.5	8.5	6.9	17.5	3.0	19.4	0.7	
Midwest	23.6	6.6	29.3	4.3	18.0	7.4	19.7	3.2	23.8	0.7	
South	22.9	6.8	28.7	4.2	43.4	9.9	35.4	3.9	34.8	0.8	
West	23.5	6.8	25.8	4.0	30.1	8.5	27.4	3.5	22.0	0.7	

Source: Current Population Survey (CPS) Contingent Worker Supplement, May 2017.

Notes: Estimates use supplement survey weights. The study population comprises 5,454 respondents in health care occupations. "AI/AN" = American Indian/Alaska Native. These categories are not mutually exclusive. Three responding health care workers were classified as both on-call workers and workers provided by contract firms. Missing = "Refused, Don't know, No Response"

## DISCUSSION

This study examined occupational and sociodemographic characteristics of health care workers in a variety of work arrangements, namely nonstandard work (i.e., contingent and alternative work) and self-employment. Our findings suggest that while the overall percentages of health care workers across any nonstandard work arrangement and self-employment were relatively small and often less than the national average of workers in these arrangements, substantial variation existed across arrangements as well as occupations.

Our results indicate that nonstandard work is common among allied health occupations. Massage and other therapists as well as personal and home care aides were among the top occupations for all three contingent work definitions. Over one-fifth of radiation therapists were employed by a temporary help agency. Over 10% of occupational therapy aides and assistants were on-call workers. Nurse practitioners, physician assistants, and occupational therapists were among the top occupations for contract workers.

While several middle- and high-wage health care occupations were among those identified in nonstandard work arrangements, this study also identified, low-wage health occupations such as personal and home care aides among these arrangements. Particularly concerning is the presence of lower wage health care occupations represented among those working for temporary agencies, where we also found overrepresentation of Black, Hispanic, and immigrant health care workers. Previous research in other non-health care sectors have found that temporary help agency workers are at increased risk for injuries on the job and negative physical and mental health outcomes compared to traditionally employed workers.<sup>23,24</sup>

Another finding of note is the higher percentage of health care workers across most nonstandard work arrangements as well as the self-employed without health insurance compared to health care workers not in these arrangements. This pattern among health care workers is consistent with other national studies finding a lack of critical benefits among those in nonstandard work arrangements.<sup>25</sup>

## LIMITATIONS

Several limitations with this report should be noted. First, the broader literature is concerned with how best to measure nonstandard work arrangements and whether the CPS CWS adequately identifies all of these workers, particularly those seeking work via electronic media.<sup>26</sup> Respondents to the CPS CWS provide information about their main job, but detailed information about holders of multiple jobs is not captured by the existing survey questionnaire. We do not know the arrangements of second and third jobs, a common practice in health care, which could mean that the number health care workers in nonstandard arrangements may be underestimated.<sup>27,28</sup> Second, this report does not identify or describe reasons for workers being in a particular nonstandard work arrangement or self-employed. As mentioned earlier, it is unclear whether workers prefer certain arrangements over others or have the option to change. Third, this report does not examine wages or hours worked so we are unable to determine whether any nonstandard work arrangement or self-employment leads to differences in earnings outcomes or work schedules. We note, however, that occupations associated with higher earnings such as physicians, dentists, and chiropractors are more often self-employed or independent contractors, while lower earning occupations such as personal and home care aides are frequently working for temporary agencies.

## CONCLUSION

With the ongoing and evolving COVID-19 pandemic, some employers are reportedly struggling to fill critical health care positions due to early retirements, burnout, vaccine mandates, and competition from other industries.<sup>29-33</sup> Health care employers are filling positions with temporary workers.<sup>34,35</sup> Given the risks associated with the COVID virus, health insurance and other paid benefits such as sick leave are essential, yet these benefits not commonly offered in nonstandard work arrangements, including temporary work. Our findings suggest that reliance on temporary workers and other nonstandard workers who lack benefits may put health care workers of color and immigrants at disproportionate health, and potentially financial, risk without these benefits.

While this study shows that nonstandard work arrangements and self-employment in health care are not common compared to national averages, these arrangements exist across several health care occupations. These work arrangements may offer benefits such as autonomy, flexibility of hours, and acquisition of skills for some, but it may create financial and health risks for others. Further work is needed to understand whether nonstandard work arrangements or self-employment are by choice or whether certain sociodemographic groups may be facing systemic challenges in finding standard work, which the findings from this study suggest may be the case. The health, safety, and well-being of health care workers in nonstandard work arrangements and self-employment, and how this may impact quality of care for patients, should be examined.

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## APPENDIX A.

### List of Health Care Occupations

The study identified health care occupations using the 2010 Standard Occupational Classification (SOC) coding system. Occupations listed under the major groups “health care practitioners and technical occupations” and “healthcare support occupations” were included. We also selected occupations from “community and social service occupations,” “life, physical, and social service occupations,” “management,” “personal care and service occupations,” and “production occupations” that are commonly found in various health care settings. A complete list of health care occupations and SOC codes included in this study is below. Occupations are organized by major group.

#### Healthcare Practitioners and Technical Occupations

29-1010	Chiropractors
29-1020	Dentists
29-1030	Dietitians and nutritionists
29-1040	Optometrists
29-1050	Pharmacists
29-1060	Physicians and surgeons
29-1070	Physician assistants
29-1180	Audiologists
29-1122	Occupational therapists
29-1123	Physical therapists
29-1124	Radiation therapists
29-1125	Recreational therapists
29-1126	Respiratory therapists
29-1127	Speech-language pathologists
29-1129	Therapists, all other
29-1130	Veterinarians
29-1140	Registered nurses
29-1150	Nurse anesthetists
29-1170	Nurse practitioners
29-1199	Health diagnosing and treating practitioners, all other
29-2010	Clinical laboratory technologists and technicians
29-2020	Dental hygienists
29-2030	Diagnostic related technologists and technicians
29-2040	Emergency medical technicians and paramedics
29-2050	Health practitioner support technologists and technicians
29-2060	Licensed practical and licensed vocational nurses
29-2070	Medical records and health information technicians
29-2080	Opticians, dispensing
29-2090	Miscellaneous health technologists and technicians
29-9000	Other healthcare practitioners and technical occupations

### Healthcare Support Occupations

31-1010	Nursing, psychiatric, and home health aides
31-2010	Occupational therapist assistants and aides
31-2020	Physical therapist assistants and aides
31-9010	Massage therapists
31-9091	Dental assistants
31-9092	Medical assistants
31-9094	Medical transcriptionists
31-9095	Pharmacy aides
31-9096	Veterinary assistants and laboratory animal caretakers
31-9097	Phlebotomists
31-9093	
& 31-9099	Miscellaneous healthcare support occupations, including medical equipment preparers

### Community and Social Service Occupations

21-1010	Counselors
21-1020	Social workers
21-1090	Miscellaneous Community and Social Services Specialists

### Life, Physical, and Social Service Occupations

19-1040	Medical scientists
19-3030	Psychologists

### Management

11-9110	Medical and health services managers
11-9150	Social and community service managers

### Personal Care and Service Occupations

31-9020	Personal and home care aides
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### Production Occupations

51-9080	Medical, dental, and ophthalmic laboratory technicians
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## APPENDIX B.

### Full List of Health Care Occupations by Work Arrangement Type

**Table B1:** Percentage of Individuals within Health Care Occupations Classified as Self-Employed, 2017

	Unweighted Counts	Weighted Counts	Self-Employed	
			Col (%)	SE (%)
<b>National Average</b>			10.0	0.2
<b>Health Care Occupations</b>				
Chiropractors	18	39,532	51.7	15.4
Counselors	292	885,940	8.9	1.8
Dentists	35	85,652	60.6	9.7
Dietitians and nutritionists	42	112,305	1.3	1.3
Licensed practical and licensed vocational nurses	189	583,436	1.9	1.3
Massage therapists	52	171,911	39.5	7.3
Medical and health services managers	218	682,806	8.3	2.1
Medical assistants	151	538,733	1.5	1.1
Medical transcriptionists	11	38,655	2.4	2.5
Medical, dental, and ophthalmic laboratory technicians	20	70,464	7.0	5.8
Nurse anesthetists	9	22,607	14.3	11.6
Nurse practitioners	62	194,543	3.8	2.7
Nursing, psychiatric, and home health aides	526	1,851,563	1.2	0.5
Occupational therapists	46	156,443	3.1	2.6
Opticians, dispensing	15	38,207	9.8	9.2
Optometrists	20	67,498	35.2	11.3
Personal and home care aides	475	1,557,872	7.0	1.3
Pharmacists	111	345,408	3.3	1.9
Physical therapists	87	270,813	7.9	3.5
Physician assistants	38	135,062	7.3	5.0
Physicians and surgeons	309	1,007,283	14.9	2.3
Psychologists	67	210,221	22.0	5.4
Social and community service managers	156	431,505	2.8	1.4
Social workers	249	739,641	1.5	0.7
Speech-language pathologists	44	108,673	15.5	7.5
Therapists, all other	61	200,858	13.5	4.7
Veterinarians	23	65,935	20.9	9.1

Notes: Occupations with <1% but greater than 0% self-employed were excluded from the table. These occupations included: emergency medical technicians, medical records and health information technicians, registered nurses, and veterinary assistants and laboratory animal caretakers. Occupations with 0% self-employed were also excluded: audiologists, clinical laboratory technologists and technicians, dental assistants, dental hygienists, diagnostic related technologists and technicians, health practitioner support technologists and technicians, medical scientists, occupational therapist assistants and aides, pharmacy aides, phlebotomists, physical therapist assistants and aides, radiation therapists, recreational therapists, and respiratory therapists. We also excluded the following SOC codes from the table to focus on more specific occupations: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. These occupations are included in the all health care occupations estimate.

**Table B2:** Percentage of Individuals in Health Care Occupations Classified Under a Contingent Worker Definition, 2017

	Unweighted Counts	Weighted Count	Contingent Work Definition 1		Contingent Work Definition 2		Contingent Work Definition 3	
			Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)
<b>National Average</b>			1.2	0.1	1.6	0.1	3.8	0.1
<b>Health Care Occupations</b>								
Clinical laboratory technologists and technicians	131	427,970	0.0	0.0	0.0	0.0	1.3	1.2
Counselors	292	885,940	1.5	0.8	1.7	0.8	4.1	1.3
Dental assistants	87	279,879	0.0	0.0	0.0	0.0	2.4	1.7
Dental hygienists	45	137,041	1.5	1.5	1.5	1.5	4.4	3.2
Diagnostic related technologists and technicians	92	284,135	0.0	0.0	0.0	0.0	1.1	1.1
Dietitians and nutritionists	42	112,305	0.0	0.0	0.0	0.0	3.9	3.9
Health practitioner support technologists and technicians	183	605,677	0.0	0.0	0.0	0.0	0.5	0.5
Massage therapists	52	171,911	0.0	0.0	3.3	3.2	3.3	3.2
Medical and health services managers	218	682,806	0.5	0.5	0.5	0.5	1.4	1.0
Medical assistants	151	538,733	0.8	0.8	0.8	0.8	0.8	0.8
Medical records and health information technicians	68	205,555	0.0	0.0	0.0	0.0	3.0	2.7
Medical, dental, and ophthalmic laboratory technicians	20	70,464	0.0	0.0	0.0	0.0	6.4	6.2
Nurse practitioners	62	194,543	0.0	0.0	0.0	0.0	2.8	2.3
Nursing, psychiatric, and home health aides	526	1,851,563	0.3	0.3	0.3	0.3	1.6	0.7
Optometrists	20	67,498	0.0	0.0	0.0	0.0	6.3	6.1
Personal and home care aides	475	1,557,872	1.6	0.7	2.5	0.8	6.5	1.3
Pharmacists	111	345,408	0.2	0.2	2.7	1.8	5.4	2.3
Pharmacy aides	16	56,044	0.0	0.0	0.0	0.0	10.2	9.6
Phlebotomists	39	135,436	0.0	0.0	0.0	0.0	1.8	1.8
Physical therapists	87	270,813	0.0	0.0	0.3	0.3	1.7	1.4
Physician assistants	38	135,062	0.0	0.0	0.0	0.0	1.5	1.5
Physicians and surgeons	309	1,007,283	1.1	0.6	1.1	0.6	7.1	1.7
Psychologists	67	210,221	0.4	0.5	0.4	0.5	4.3	2.7
Radiation therapists	6	22,095	0.0	0.0	22.0	19.4	22.0	19.4
Registered nurses	1,074	3,276,680	0.2	0.1	0.7	0.3	1.9	0.5
Social and community service managers	156	431,505	1.4	1.3	2.4	1.7	2.9	1.7
Social workers	249	739,641	0.8	0.7	0.8	0.7	2.7	1.2
Therapists, all other	61	200,858	3.0	2.9	3.0	2.9	3.0	2.9
Veterinarians	23	65,935	0.0	0.0	0.0	0.0	6.8	6.5
Veterinary assistants and laboratory animal caretakers	29	76,982	1.1	1.1	1.1	1.1	1.1	1.1

Note: Occupations with 0% across all definitions are excluded from the table. These occupations included: audiologists, chiropractors, dentists, emergency medical technicians and paramedics, licensed practical and licensed vocational nurses, medical scientists, medical transcriptionists, nurse anesthetists, occupational therapists, occupational therapist assistants and aides, opticians (dispensing), physical therapist assistants and aides, recreational therapists, respiratory therapists, and speech-language pathologists. We also excluded the following SOC codes from the table to focus on more specific occupations: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. These occupations are included in the all health care occupations estimate.

**Table B3:** Percentage of Individuals within Health Care Occupations Classified in an Alternative Work Arrangement, 2017

	Unweighted Counts	Weighted Count	Temporary Help Agency Workers		On-Call Workers		Contract Workers Employed by Firms		Independent Contractor	
			Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)
<b>National Average</b>			0.9	0.1	1.7	0.1	0.6	0.0	7.0	0.1
<b>Health Care Occupations</b>										
Chiropractors	18	39,532	0.0	0.0	0.0	0.0	0.0	0.0	52.4	15.1
Clinical laboratory technologists and technicians	131	427,970	0.9	0.9	0.1	0.1	0.0	0.0	0.0	0.0
Counselors	292	885,940	0.6	0.6	2.8	1.1	0.8	0.5	8.2	1.8
Dental assistants	87	279,879	1.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Dentists	35	85,652	0.0	0.0	0.0	0.0	0.0	0.0	16.9	7.2
Diagnostic related technologists and technicians	92	284,135	0.0	0.0	3.5	1.8	0.0	0.0	0.7	0.7
Dietitians and nutritionists	42	112,305	4.2	4.1	0.0	0.0	0.0	0.0	1.3	1.3
Emergency medical technicians and paramedics	72	233,584	0.0	0.0	2.6	1.8	0.0	0.0	0.0	0.0
Health practitioner support technologists and technicians	183	605,677	0.0	0.0	1.3	0.7	0.0	0.0	0.0	0.0
Licensed practical and licensed vocational nurses	189	583,436	3.1	1.5	2.0	1.0	0.0	0.0	2.7	1.5
Massage therapists	52	171,911	0.0	0.0	2.6	2.6	0.0	0.0	29.9	6.8
Medical and health services managers	218	682,806	0.0	0.0	3.1	1.5	0.6	0.6	2.3	1.2
Medical assistants	151	538,733	1.3	1.3	0.6	0.6	0.0	0.0	1.5	1.1
Medical records and health information technicians	68	205,555	0.0	0.0	0.0	0.0	0.0	0.0	3.2	2.5
Medical transcriptionists	11	38,655	0.0	0.0	0.0	0.0	13.9	12.8	15.1	12.0
Medical, dental, and ophthalmic laboratory technicians	20	70,464	6.4	6.2	0.0	0.0	0.0	0.0	5.9	5.7
Nurse anesthetists	9	22,607	0.0	0.0	0.0	0.0	2.1	2.2	11.7	11.2
Nurse practitioners	62	194,543	0.0	0.0	4.6	2.9	2.8	2.0	1.5	1.5
Nursing, psychiatric, and home health aides	526	1,851,563	3.2	0.9	3.5	0.9	1.5	0.6	0.8	0.4
Occupational therapist assistants and aides	10	37,953	0.0	0.0	10.8	10.3	0.0	0.0	0.0	0.0
Occupational therapists	46	156,443	0.0	0.0	0.7	0.7	2.4	2.3	1.3	1.0
Opticians, dispensing	15	38,207	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2
Optometrists	20	67,498	0.0	0.0	8.8	8.3	0.0	0.0	15.2	8.3
Personal and home care aides	475	1,557,872	1.9	0.8	4.3	1.1	1.1	0.5	6.5	1.3
Pharmacists	111	345,408	0.0	0.0	5.2	2.1	0.2	0.2	2.0	1.4
Phlebotomists	39	135,436	1.8	1.8	3.9	3.8	0.0	0.0	0.0	0.0
Physical therapist assistants and aides	28	85,643	0.0	0.0	6.9	4.8	0.0	0.0	0.0	0.0

Table B3 continued next page

Table B3 *continued*

	Unweighted Counts	Weighted Count	Temporary Help Agency Workers		On-Call Workers		Contract Workers Employed by Firms		Independent Contractor	
			Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)	Col (%)	SE (%)
Physical therapists	87	270,813	1.7	1.4	1.6	1.6	1.6	1.5	5.4	2.9
Physician assistants	38	135,062	0.0	0.0	0.0	0.0	2.8	2.8	3.9	3.8
Physicians and surgeons	309	1,007,283	0.1	0.1	3.9	1.2	0.6	0.4	5.6	1.4
Psychologists	67	210,221	0.0	0.0	0.9	0.9	0.0	0.0	14.6	4.4
Radiation therapists	6	22,095	22.0	19.4	2.1	2.2	0.0	0.0	0.0	0.0
Registered nurses	1,074	3,276,680	0.6	0.3	3.2	0.6	0.1	0.1	0.7	0.3
Social and community service managers	156	431,505	1.0	1.0	1.3	0.7	1.0	0.9	3.4	1.7
Social workers	249	739,641	0.0	0.0	0.9	0.7	0.0	0.0	1.9	1.0
Speech-language pathologists	44	108,673	0.0	0.0	3.9	3.9	3.8	3.3	18.2	7.6
Therapists, all other	61	200,858	0.0	0.0	0.5	0.5	0.0	0.0	11.6	4.3
Veterinarians	23	65,935	0.0	0.0	0.0	0.0	0.0	0.0	7.4	5.4
Veterinary assistants and laboratory animal caretakers	29	76,982	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6

Note: Occupations with 0% across all alternative work arrangements were excluded from the table. These occupations included: audiologists, dental hygienists, medical scientists, pharmacy aides, recreational therapists, and respiratory therapists. We also excluded the following SOC codes from the table to focus on more specific occupations: 21-1090 miscellaneous community social service specialists, including health education and community health workers, 29-1199 health diagnosing and treating practitioners, all other, 29-9000 other health care practitioners and technical occupations, 29-2090 miscellaneous health technologists and technicians, 31-9093 & 31-9099 miscellaneous health care support occupations. These occupations are included in the all health care occupations estimate.

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